



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/687,020	10/13/2000	Eric C. Coad	55202USA1A.002	9163

7590 10/11/2002

Attention: Scott R. Pribnow  
Office of Intellectual Property Counsel  
3M Innovative Properties Company  
P. O. Box 33427  
St. Paul, MN 55133-3427

EXAMINER

SHAKERI, HADI

ART UNIT	PAPER NUMBER
----------	--------------

3723

DATE MAILED: 10/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

S M.

<b>Office Action Summary</b>	<b>Application No.</b> 09/687,020	<b>Applicant(s)</b> COAD ET AL.	
	<b>Examiner</b> Hadi Shakeri	<b>Art Unit</b> 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 20-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 20-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>08</u> . | 6) <input type="checkbox"/> Other:  |

Art Unit: 3723

**DETAILED ACTION*****Drawings***

1. The proposed drawing correction submitted with Amendment "A" filed on 03/29/02 has been approved.

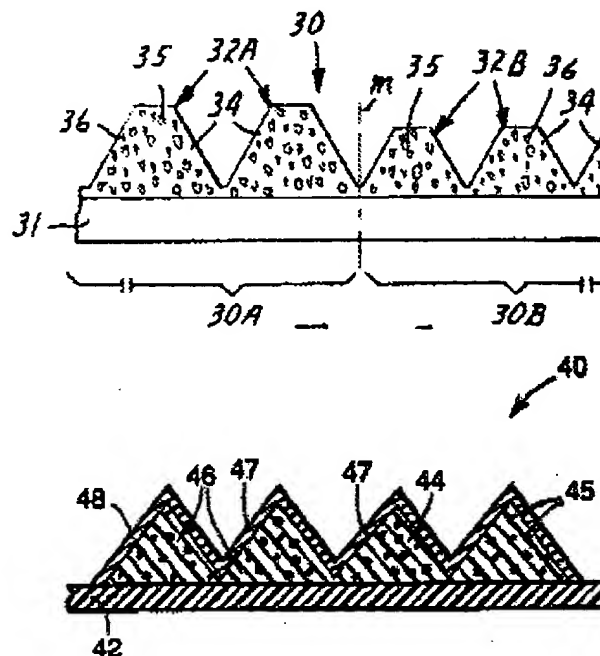
***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-18 and 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stubbs et al. US Patent No. 6,277,160 in view of Martin et al.

Stubbs et al. discloses all the limitations of claims 1 and 20, i.e., an abrasive article (30) comprising a backing (31) an abrasive coating consisting essentially of a harden binder comprising a plurality of precisely-shaped protrusions (34) (free of abrasives, col. 15, lines 10-17), except for disclosing the diamond-like carbon coating. Martin et al. teaches an abrasive article having a diamond like coating layer (48). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the article of Stubbs et al. with diamond-like coating as taught by Martin et al. as wear-protective layer, col. 3, line 28.



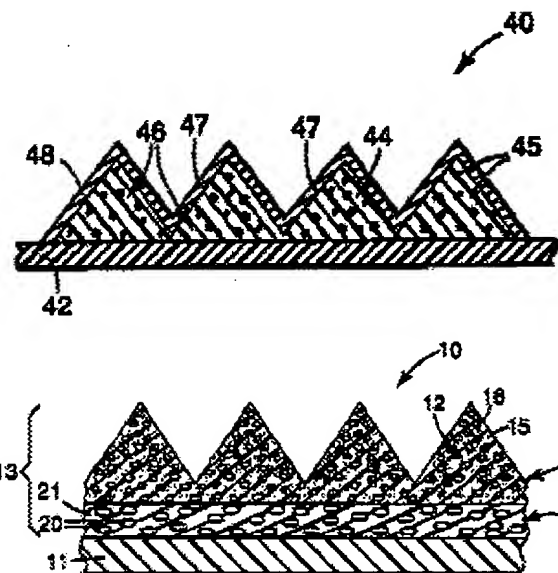
Regarding claims 2-18 and 21-31, prior art meets the limitations.

Art Unit: 3723

4. Claims 1, 2, 5-18 and 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Stoetzel US Patent No. 5,928,394.

Martin et al. discloses all the limitations of claims 1 and 20, i.e., a method, col. 13, lines 39-68 and col. 14, lines 6-15, and an abrasive article (40)

comprising a backing (42) an abrasive coating consisting essentially of a hardened binder comprising a plurality of precisely-shaped protrusions (44) (46) and a diamond-like carbon coating (48), except that the abrasive coating is not free of abrasive particles since the structured abrasive composites embodied include abrasive particles. Stoetzel teaches an abrasive article, stating that generally it is preferred to incorporate abrasive particles into the abrasive



**Fig. 1**

composites, though in some instances an abrasive composite layer may not comprise abrasive particles, col. 8, lines 1-4. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the abrasive article of Martin et al. by eliminating the abrasive particles in the binder (44) as taught by Stoetzel to adapt the article for polishing "soft" workpieces, Stoetzel, col. 8, lines 6-8.

Regarding claims 2, 5-18 and 21-31, prior art (Martin in view of Stoetzel) meets the limitations.

5. Claims 1-18 and 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Stubbs et al. US Patent No. 6,277,160.

Martin et al. discloses all the limitations of claims 1 and 20, except that the abrasive coating is not free of abrasive particles since the structured abrasive composites embodied include abrasive particles. Stubbs et al. teaches an abrasive article having a structured abrasive

Art Unit: 3723

composite, which are free of abrasives. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the abrasive article of Martin et al. by eliminating the abrasive particles in the binder (44) as taught by Stubbs et al. to adapt the article for polishing and buffing applications, Stubbs, col. 15, lines 10-17 while reducing manufacturing costs (elimination of the abrasive particles).

Regarding claims 3 and 4, prior art (Martin in view of Stubbs) meets the limitations, Stubbs, col. 15, lines 18-31.

Regarding claims 2, 5-18 and 21-31, prior art (Martin in view of Stubbs) meets the limitations.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action. Note that an independent claim which is amended to recite an abrasive coating free of abrasive particles is different in scope than a depended claim reciting "the binder to be free of abrasive particles".

Art Unit: 3723

***Response to Arguments***

7. Applicant's arguments filed August 05, 2002 have been fully considered but are moot in view of the new ground(s) of rejection. However the following is made part of the record.


In response to applicant's argument that the advantage of the claimed abrasive articles and methods is not directed to abrasive cutting performance but rather to not contaminating the work, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Stoetzel et al. discloses structured abrasive composites free of abrasives the fact that it is used for specific applications and not for preventing contamination of the work, which would flow naturally for that specific application, is irrelevant.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Martin et al. teaches the advantages of DLC coating in improving the cutting performance, e.g., by acting as a wear-protective layer, col. 3, line 28, or as a layer of coated abrasive article, col. 3 lines 60-66.

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Hadi Shakeri at (703) 308-6279, FAX (703) 746-3279 for unofficial documents. The examiner can normally be reached on Monday-Thursday, 7:30 AM to 6:00 PM.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist at (703) 308-1148.

HS  
October 3, 2002

  
EILEEN P. MORGAN  
PRIMARY EXAMINER